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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/644,261	ANSARI ET AL.	
	Examiner	Art Unit	
	PRITHAM PRABHAKHER	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,8,9,11,12,17-19,21,23,25,26,28,29,31 and 34-43* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8,9,11,12,17-19,21,23,25,26,28,29,31 and 34-43* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 August 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *01/03/2006*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 05/25/10 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 1-4,6,8,9,11,12,17-19,21,23,25,26,28,29,31 and 34-43 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 3, 11, 21, 23, 26, 29, 31 and 34-38 are rejected under 35 U.S.C. 102(e) as being anticipated by Shirakawa (US Pub No.: 2003/0117501A1).

*In regard to **Claim 1**, Shirakawa discloses an image capture system **(Abstract; Figures 2 and 8-9)**, comprising:*

*a first image sensor lens module comprising a first lens integrated with a first sensor (Lens 4a and sensor 2a, **Figures 2 and 8)**, the*

*first image sensor lens module operable to generate first raw image data (The first image sensor lens module generates a first raw image data of the background etc., **Figures 2 and 8; Paragraphs 0030-0032; 0046-0051)**;*

*a second image sensor lens module comprising a second lens integrated with a second sensor, the second image sensor lens module operable to generate second raw image data (Lens 4b and Sensor 2b, **Figures 2 and 8; Paragraphs 0046-0051)**;*

*a shared image processing engine integrated into a single electronic device with the first image sensor lens module and the second image sensor lens module and coupled to the first image sensor lens module and to the second image sensor lens module, wherein the shared image processing engine is operable to perform an image processing operation to transform raw image data into a viewable image (Image processor 103 is shared by both the first and second image sensor lens modules. A shared image processing is performed to transform the raw image data into a viewable image to be displayed on the display 62, **Paragraphs 0046-0051; Figure 8)**; and*

*a selector integrated into the single electronic device (Selector 5, **Figures 2 and 8)**, wherein while the single electronic device is on and the first image sensor lens*

module is generating the first raw image data and the second image sensor lens module is generating the second raw image data, the selector selects a selected one of the first raw image data and the second raw image data to be routed to the shared image processing engine to be transformed into the viewable image ***(****The selector 5 selects either one of the first camera/sensor 10a/2a or second camera/sensor 10b/2b to route the selected one of the first and second raw data to the image processor 103,* ***Figures 2 and 8; Paragraphs 0046-0051)****.*

Regarding ***Claim 3****, Shirakawa discloses the image capture system of claim 1, further comprising:*

a third image sensor lens module operable to generate third raw image data,

wherein the third image sensor lens module is integrated into he single electronic device and coupled to the shared image processing engine, and wherein while the single electronic device is on, the first image sensor lens module is generating the first raw image data, the second image sensor lens module is generating the second raw image data, the third image sensor lens module is generating the third raw image data, the selector (5) causes only one of the first raw image data, the second raw image data, and the third raw image data to be routed to the shared image processing engine to be transformed into the viewable image ***(Paragraph 0051)****.*

Regarding ***Claim 35****, Shirakawa discloses the image capture system of claim 1, wherein the first image sensor lens module does not include a computer readable*

*memory **(Figures 2 and 8 of Shirakawa** show no memory present on the lens modules**)**.*

*In regard to **Claim 36**, Shirakawa discloses the image capture system of claim 1, wherein there is no optical component spatially situated between the first lens and the first sensor **(Figures 2 and 8 of Shirakawa)**.*

*With regard to **Claim 11**, Shirakawa discloses an image capturing system **(Abstract; Figures 2 and 8-9)** comprising:*

*a first image module selectively coupled to a processing engine by way of a selector (5) **(**Lens 4a and sensor 2a, **Figures 2 and 8)**, the*

*first image module operable to capture a first raw image **(**The first image sensor lens module generates a first raw image data of the background etc., **Figures 2 and 8; Paragraphs 0030-0032; 0046-0051)**;*

*a second image module selectively coupled to the processing engine by way of the selector, the second image module operable to capture a second raw image **(**Lens 4b and Sensor 2b, **Figures 2 and 8; Paragraphs 0046-0051)**;*

*the selector **(**Selector 5, **Figures 2 and 8)** operable to determine a selected image module from the first image module and the second image module and to selectively cause a raw image captured by the selected image module to be sent to the processing engine **(**The selector 5 selects either one of the first camera/sensor 10a/2a*

or second camera/sensor 10b/2b to route the selected one of the first and second raw data to the image processor 103, ***Figures 2 and 8; Paragraphs 0046-0051****); and*

the processing engine operable to perform an image processing operation on the raw image captured by the selected image module, wherein the processing engine is not configured to perform the image processing operation on the first raw image and the second raw image simultaneously (Image processor 103 is shared by both the first and second image sensor lens modules. A shared image processing is performed to transform the raw image data into a viewable image to be displayed on the display 62, ***Paragraphs 0046-0051; Figure 8****. The user selects which image is sent to the processing engine. Therefore, in accordance with the user selection, the processing does not necessarily have to be done simultaneously. If the user does not send the second data for instance, it will not be processed simultaneously with the first).*

With regard to ***Claim 21****, Shirakawa discloses the image capture system of claim 11, wherein the first raw image represents a first view of a scene and the second raw image represents a second view of the scene (The image data captured represents two different views as discussed above) and wherein at least a portion of the first view includes a portion of the scene captured in the second view (The first image data Sa is superimposed onto the second image data Sb. The superimposed data is then sent to the microprocessor 61,* ***Paragraphs 0047-0048****. This reads on a portion of the first view including a portion of the scene captured in the second view).*

*Regarding **Claim 34**, Shirakawa discloses the image capturing system of claim 11, wherein the first image module comprises a lens integrated with a sensor **(Figure 2)**.*

*With regard to **Claim 23**, Shirakawa discloses an image capturing method **(Abstract; Figures 2 and 8-9)**, comprising:*

*receiving first image information that represents a first view obtained from a first digital image sensor of a plurality of digital image sensors (The first image sensor lens module generates a first raw image data of the background etc., **Figures 2 and 8; Paragraphs 0030-0032; 0046-0051)**;*

*receiving second image information that represents a second view obtained from a second digital image sensor of the plurality of digital image sensors (Lens 4b and Sensor 2b, **Figures 2 and 8; Paragraphs 0046-0051)**;*

*sending a set of image information representing a single view obtained from one of the plurality of digital image sensors to a processing engine (Superimposed image data representing a single view is sent to microprocessor 61, **Paragraphs 0047-0048)**; and*

performing an image processing operation on the set of image information, wherein the processing engine is not configured to perform the image processing operation on the first image information and the second image information simultaneously (Image processor 103 is shared by both the first and second image sensor lens modules. A shared image processing is performed to transform the raw

image data into a viewable image to be displayed on the display 62, ***Paragraphs 0046-0051; Figure 8****. The user selects which image is sent to the processing engine. Therefore, in accordance with the user selection, the processing does not necessarily have to be done simultaneously. If the user does not send the second data for instance, it will not be processed simultaneously with the first****).***

With regard to ***Claim 26****, Shirakawa discloses the image capture method of claim 23, further comprising:*

initiating presentation of the single view on a display after performing the image processing operation ***(Paragraphs 0047-0049)****.*

Regarding ***Claim 29****, Shirakawa discloses the image capture method of claim 23, further comprising:*

outputting post processed image signal information ***(Figures 8-9)****.*

In regard to ***Claim 31****, Shirakawa discloses the image capture method of claim 29, further comprising streaming the post processed image signal information* ***(****The portable telephone can send superimposed moving (streaming) images,* ***Paragraph 0028)****.*

*Regarding **Claim 37**, Shirakawa discloses the image capturing method of claim 23, wherein none of the plurality of digital image sensors includes a computer readable memory **(Figures 2 and 8** show no memory present in the digital image sensors**)**.*

*Regarding **Claim 38**, Shirakawa discloses the image capturing method of claim 23, wherein the plurality of digital image sensors are integrated within a single electronic device **(Figures 2 and 8-9)**.*

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 12, 18-19 and 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) as applied to claims 1 and 11 above.

*In regard to **Claim 12**, Shirakawa does not explicitly disclose the image capture system of claim 11, further comprising: an interface operable to facilitate communication of a processing engine output to a device selected from the group consisting of a computing device. Official notice is taken by the Examiner on communicatively couple an output of the shared image processing engine to an external computing system. It*

would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to enable the system disclosed by Shirakawa, Monroe and Glassman et al. to couple an output of the processing engine to an external computing system, because this way, processing can be performed external from the device and increase the speed and performance of the device.

Regarding ***Claim 18****, Shirakawa does not explicitly disclose the image capture system of claim 11, wherein the first image module comprises a first lens and a first sensor, wherein the second image module comprises a second lens and a second sensor, and wherein the first lens and the first sensor have a different focal length than the second lens and the second sensor. Official notice is taken by the Examiner on enabling the capturing of different depths of focus for the first and second image lens modules. It would have been obvious and well-known to enable the system disclosed by Shirakawa to have the ability to capture differing depths of focus for each image sensor, because this gives the user the ability to individually control the focusing of different parts of a scene that are deemed useful in the capturing of an image.*

Regarding ***Claim 19****, Shirakawa does not disclose the image capture system of claim 11, wherein the first image module comprises lens with autofocus. Official notice is taken by the examiner stating that it would have been obvious and well known at the time of the invention to have a lens that performed auto-focus. Having the lens perform*

an auto-focus function would have saved the user the time and effort of manually focusing in on a scene to be imaged.

In regard to ***Claim 39****, Shirakawa doesn't explicitly teach or disclose the image capture system of claim 1, wherein the first lens of the first image sensor lens module has a first depth of focus, and wherein the second lens of the second image sensor lens module has a second depth of focus different from the first depth of focus. Official notice is taken by the Examiner on enabling the capturing of different depths of focus for the first and second image lens modules. It would have been obvious and well-known to enable the system disclosed by Shirakawa to have the ability to capture differing depths of focus for each image sensor, because this gives the user the ability to individually control the focusing of different parts of a scene that are deemed useful in the capturing of an image.*

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Glassman et al. (US Patent No.: 5920337).

With regard to ***Claim 2****, Shirakawa discloses the image capture system of claim 1, further comprising a support having an exterior surface that comprises a mounting surface to mount the single electronic device as discussed above. However, Shirakawa do not disclose that the support has a generally spherical geometry. Glassman et al.*

teach of multiple sensors on a mounting surface (60 which is fabricated on an IC in Figure 10 of Glassman et al.) that has a generally spherical geometry (Column 10, Line 63 to Column 11; Line 3 and Figure 10 of Glassman et al.). It would have been obvious and well-known to one of ordinary skill in the art to incorporate a spherical shaped mounting surface into the design disclosed by Shirakawa, because this enables the system to obtain a three hundred and sixty degree panoramic view of a scene to be imaged, ***Column 2, Lines 58 to 59 of Glassman et al.****.*

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Webster (US Patent No.: 6791076B2)

In regard to ***Claim 4****, Shirakawa do not explicitly disclose the image capture system of claim 1, wherein the first and second image sensor lens module are adjustable secured to a mounting surface. Webster discloses an image sensor package includes an image sensor, a window, and a molding, where the molding includes a lens holder extension portion extending upwards from the window. The lens holder extension portion includes a female threaded aperture extending from the window such that the window is exposed through the aperture. A lens is supported in a threaded lens support. The threaded lens support is threaded into the aperture of the lens holder extension portion. The lens is readily adjusted relative to the image sensor by rotating the lens support* ***(Abstract of Webster)****. Webster discloses that the lens can be readily adjusted relative to the image sensor by rotating a lens support (Abstract of Webster). It would*

have been obvious and well-known to one of ordinary skill in the art at the time of the invention to have the lens' adjustably secured with the mounting surface, because this readily allows focusing of radiation on the active area of the image sensor, ***Column 4, Lines 64 et seq. of Webster****.*

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Adair et al. (US Patent No.: 7002621B2).

In regard to ***Claim 6****, Shirakawa does not explicitly disclose the image capture system of claim 1, further comprising a microphone assembly communicatively coupled to the shared image processing engine to provide audio input. Adair et al. disclose a reduced area imaging device is provided for use with a communication device, such as a wireless/cellular phone. Various configurations of the imaging device are provided which locate the elements of the imaging device at desired locations. The communication device includes a miniature LCD-type monitor which displays not only images taken by the camera module, but also incoming video messages. The camera module may communicate with the housing of the communication device by wired connection, or wirelessly. The camera module is of such small size that it can be stored within the housing of the communication device. The camera module may be pointed at any object within sight of the user, without having to move the phone housing in order to take video images. Any acceptable wireless standard may be used for wireless*

communication between the camera module and the video telephone. One particularly advantageous wireless standard includes Bluetooth ***(****Abstract of Adair et al.****)****. Adair et al. disclose the system having a microphone assembly (78) present and connected to a processing engine (72),* ***Figure 6; Column 10, Lines 16 et seq. of Adair et al****.. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to enable the system disclosed by Shirakawa to have a microphone present to capture audio along with the captured images as taught by Adair et al., because having audio to go along with a captured image helps reaches more of the senses present in a user.*

Claims 8, 25, 28 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) as applied to claims 1, 23 and 39 above, and further in view of Monroe (US Patent No.: 7023913B1).

In regard to ***Claim 8****, Shirakawa does not explicitly disclose the image capture system of claim 1, further comprising a triggering engine operable to signal the selector to route the second raw image data to the shared image processing engine in response to a determination that the second image sensor lens module is aimed toward particular scene activity. Monroe (US Patent No.: 7023913B1) teaches of a digital camera system with a plurality of cameras that is capable of collecting more than one image while performing surveillance and monitoring of an area,* ***Column 2, Lines 36-49; Figures 16 and 19 of Monroe****. Monroe discloses a MUX 13 that functions as a pixel selector.*

Inputs from multiple cameras monitoring an area are coupled through separate motion compressors 12a-12n. The MUX is responsive to select an individual camera signal from the image sensor selector (processor 15 is connected to a network that sends it signals to give to the cameras, ***Column 14, Lines 63-64 of Monroe****) at the control input (52) to select the pixel streams from the image sensors 10a-10n that only correspond to the pixels that are located within the target area of the object being tracked,* ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe****. Pixels outside the view of the object being tracked are avoided as can be seen from* ***Figure 16 of Monroe)****. Only the compressed pixels that fall within the target view are sent to the MUX 13 and then sent to the processor 15 for processing. Areas and pixels that are not concerned with the target being tracked will not be sent to the processor,* ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe)****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to incorporate the function of selecting individual pixels of the first and second image modules and enabling them to be randomly accessible by the processing engine as disclosed Monroe into the teachings of Shirakawa, because this significantly reduces the amount of visual data to only the data that's important while preserving quality and increasing processing speed,* ***Column 3, Lines 12-17 and Lines 57-65 of Monroe****.*

With regard to ***Claim 40****, Shirakawa does not explicitly disclose the image capture system of claim 39, further comprising a triggering engine integrated into the single electronic device, wherein the triggering engine is operable to evaluate scene*

view information to identify which of the first raw image data and the second raw image data comprises desired information. Monroe (US Patent No.: 7023913B1) teaches of a digital camera system with a plurality of cameras that is capable of collecting more than one image while performing surveillance and monitoring of an area, ***Column 2, Lines 36-49; Figures 16 and 19 of Monroe****. Monroe discloses a MUX 13 that functions as a pixel selector. Inputs from multiple cameras monitoring an area are coupled through separate motion compressors 12a-12n. The MUX is responsive to select an individual camera signal from the image sensor selector (processor 15 is connected to a network that sends it signals to give to the cameras,* ***Column 14, Lines 63-64 of Monroe****) at the control input (52) to select the pixel streams from the image sensors 10a-10n that only correspond to the pixels that are located within the target area of the object being tracked,* ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe****. Pixels outside the view of the object being tracked are avoided as can be seen from* ***Figure 16 of Monroe)****. Only the compressed pixels that fall within the target view are sent to the MUX 13 and then sent to the processor 15 for processing. Areas and pixels that are not concerned with the target being tracked will not be sent to the processor,* ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe)****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to incorporate the function of selecting individual pixels of the first and second image modules and enabling them to be randomly accessible by the processing engine as disclosed Monroe into the teachings of Shirakawa, because this significantly reduces the amount of visual data to only the data that's important while*

preserving quality and increasing processing speed, ***Column 3, Lines 12-17 and Lines 57-65 of Monroe****.*

Regarding ***Claim 25****, Shirakawa does not explicitly teach or disclose the image capturing method of claim 23, further comprising performing the image processing operation on the fist image information until a desired portion of a scene is not in view of the first digital image sensor, then ceasing to perform the image processing operation on the first image information and performing the image processing operation of the second image information.*

Monroe (US Patent No.: 7023913B1) teaches of a digital camera system with a plurality of cameras that is capable of collecting more than one image while performing surveillance and monitoring of an area, ***Column 2, Lines 36-49; Figures 16 and 19 of Monroe****. Monroe discloses a MUX 13 that functions as a pixel selector. Inputs from multiple cameras monitoring an area are coupled through separate motion compressors 12a-12n. The MUX is responsive to select an individual camera signal from the image sensor selector (processor 15 is connected to a network that sends it signals to give to the cameras,* ***Column 14, Lines 63-64 of Monroe****) at the control input (52) to select the pixel streams from the image sensors 10a-10n that only correspond to the pixels that are located within the target area of the object being tracked,* ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe****. Pixels outside the view of the object being tracked are avoided as can be seen from* ***Figure 16 of Monroe)****. Only the compressed pixels that fall within the target view (selected camera) are sent to*

the MUX 13 and then sent to the processor 15 for processing. Areas and pixels that are not concerned with the target being tracked will not be sent to the processor, ***Figures 16 and 19; Column 12, Lines 44-65; Column 13, Lines 13-28 of Monroe)****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to incorporate the function of selecting individual pixels of the first and second image modules and enabling them to be randomly accessible by the processing engine as disclosed Monroe into the teachings of Shirakawa, because this significantly reduces the amount of visual data to only the data that's important while preserving quality and increasing processing speed,* ***Column 3, Lines 12-17 and Lines 57-65 of Monroe****.*

With regard to ***Claim 28****, Shirakawa does not explicitly disclose the image capture method of claim 23, further comprising:*

when the image processing operation is being performed on the second image information, receiving a directional identification signal indicating activity at a location associated with the first view; and in response to the directional identification signal, ceasing to perform the image processing operation on the second image information, and performing the image processing operation on the first image information.

Monroe (US Patent No.: 7023913B1) teaches of a digital camera system with a plurality of cameras that is capable of collecting more than one image while performing surveillance and monitoring of an area, ***Column 2, Lines 36-49; Figures 16 and 19 of Monroe.*** *Monroe also teaches receiving a directional identification signal indicating that*

the first view contains a desired scene activity ***(Column 12, Lines 44-65 and Column 13, Lines 13-28 of Monroe)****. If the activity was detected in the region of the second camera, the camera would focus its attention in the region of the second camera. However, when the activity is shifted into the area of the first camera (first image information), the second camera will no longer be necessary in tracking the object especially if it is out of its field of view. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to correlate the first view to a first image sensor of the plurality of image sensors and the second view to a second image sensor of the plurality of image sensors; and receiving a directional identification signal indicating that the first view contains a desired scene activity as disclosed by Monroe, because this lets a viewer clearly observe an object from afar while alerting the viewer of the direction of an activity so the viewer can take necessary action during a surveillance operation.*

Claims 17 and 41-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Foote et al. (US Patent No.: 7015954B1).

In regard to ***Claim 17****, Shirakawa disclose multiple cameras (Figure 2 of Shirakawa) that have different views (Figures 2 and 8-9). However, Shirakawa do not explicitly disclose the image capture system of claim 11, wherein the first image module has a resolution and the second module has a different resolution. Foote et al. disclose two different cameras (Ch1 and Ch2 from Figure 10 of Foote et al.). Before merging the*

images from Ch1 and Ch2, it is taught that the regions from Ch1 corresponding to the regions in Ch2 differ in resolution (the regions are darker in Ch1), ***Column 11, Lines 41-47 of Foote et al.*** *It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate having one sensor differ in resolution when compared to the other sensor as taught by Foote et al. into the teachings of Shirakawa, because each sensor captures a different scene of view and the light falling on each portion of the scene of view could vary.*

In regard to ***Claim 41****, Shirakawa does not explicitly disclose the image capture system of claim 1, wherein the shared image processing engine and the selector replicate a pan, tilt and zoom operation by selectively causing the only one of the first raw image data and the second raw image data to be transformed into the viewable image. Foote et al. disclose panning, tilting and zooming of an array of cameras,* ***Column 1, Lines 19-20 and 55-62 of Foote et al.****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to enable the multiple cameras disclosed by Shirakwa to be capable of panning, tilting and zooming in on desired information (be it information from the first or second cameras disclosed by Shirakawa), because this increases the field of view of the cameras while enabling the area of interest to be more visible to a user.*

With regard to ***Claim 42****, Shirakawa does not explicitly disclose the image capture system of claim 1, wherein the shared image processing engine performs a*

digital magnification by interpolating between pixels in a center of the selected one of the first raw image data and the second raw image data routed to the shared image processing engine. Foote et al. disclose that digital zooming of a scene is possible with an array of cameras, ***Column 1, Lines 26-30 of Foote et al.****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to incorporate digital zooming taught by Foote et al. into the teachings disclosed by Shirakawa, because digital zooming increases the size of the image to be captured and renders the image easier to view.*

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Monroe (US Patent No.: 7023913B1) as applied to claim 8 above and further in view of Glassman et al. (US Patent No.: 5920337).

In regard to ***Claim 9****, Shirakawa and Monroe do not teach or explicitly disclose the image capture system of claim 8, further comprising: a support having an exterior surface that comprises a mounting surface to mount the single electronic device, the support having a geometry that facilitates differing orientations of the first and the second image sensor lens modules; and an interface operable to communicatively couple an output of the shared image processing engine to an external computing system.*

Glassman et al. teach of multiple sensors on a mounting surface (60 which is fabricated on an IC in Figure 10 of Glassman et al.) that has a generally spherical geometry (Column 10, Line 63 to Column 11; Line 3 and Figure 10 of Glassman et al.). The system has a support having an exterior surface that comprises the mounting surface, the support having a geometry that facilitates differing orientations of the first and the second image sensor lens modules (Figure 10 of Glassman et al. show that the support has a geometry that facilitates differing orientations of the image sensor modules); and an interface operable to communicatively couple an output of the processing engine to an external computing system (Processed images can be sent to a computer, ***Column 4, Lines 62-63 of Glassman et al.)****.*

It would have been obvious and well-known to one of ordinary skill in the art to incorporate a spherical shaped mounting surface into the design disclosed by Shirakawa and Monroe, because this enables the system to obtain a three hundred and sixty degree panoramic view of a scene to be imaged, ***Column 2, Lines 58 to 59 of Glassman et al.*** *It would have further been obvious to couple an output of the processing engine to an external computing system, because this would have enabled the freeing up of space in the camera and increasing its present memory capacity.*

Shirakawa, Monroe and Glassman et al. do not disclose an interface operable to communicatively couple an output of the shared image processing engine to an external computing system. Official notice is taken by the Examiner on communicatively couple an output of the shared image processing engine to an external computing system. It

would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to enable the system disclosed by Shirakawa, Monroe and Glassman et al. to couple an output of the processing engine to an external computing system, because this way, processing can be performed external from the device and increase the speed and performance of the device.

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shirakawa (US Pub No.: 2003/0117501A1) in view of Chen et al. (US Patent No.: 7425984).

*In regard to **Claim 43**, Shirakawa does not explicitly disclose the image capturing system of claim 11, wherein the first image module has a first depth of focus, wherein the second image module has a second depth of focus, and wherein the first image module and the second image module are integrated on a single integrated circuit with the processing engine.*

Official notice is taken by the Examiner on enabling the capturing of different depths of focus for the first and second image lens modules. It would have been obvious and well-known to enable the system disclosed by Shirakawa to have the ability to capture differing depths of focus for each image sensor, because this gives the user the ability to individually control the focusing of different parts of a scene that are deemed useful in the capturing of an image.

Chen et al. disclose a compound camera system comprising component cameras that generate image data of an object and a processor that receives first image data from a first component camera and second image data from a second component camera and generates a virtual image. The processor projects virtual pixel data (u,v) to generate point data (x,y,z) located at depth, z=Z1, of a object plane of the object and projects the said point data (x,y,z) to generate first pixel data (u.sub.1,v.sub.1) located at a image plane of the first image. The processor also projects said point data (x,y,z) located at the depth, z=Z1, of the said object plane to generate second pixel data (u.sub.2,v.sub.2) located at the second image. The processor generates the virtual image by combining the color of first pixel data (u.sub.1,v.sub.1) and the color of second pixel data (u.sub.2,v.sub.2). ***Chen et al. teach that image modules along with the processing engine 270 are formed on an integrated circuit chip 299, Figure 2 and Column 5, Lines 3-20 of Chen et al.****. It would have been obvious and well-known to one of ordinary skill in the art at the time of the invention to enable the first and second image modules along with the processor to be incorporated onto an integrated circuit as taught by Chen et al., because this is a well-known way of saving physical space on the device; making the system compact.*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITHAM PRABHAKHER whose telephone number is

(571)270-1128. The examiner can normally be reached on M-F (7:30-5:00) Alt Friday's Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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